

IN THE CLAIMS:

Please CANCEL claims 1, 2 and 6-13 without prejudice to or disclaimer of the recited subject matter.

Please AMEND claims 3-5, as follows. Please note that all claims currently pending in this application are reproduced below for the Examiner's convenience.

1. (Canceled)

2. (Canceled)

3. (Currently Amended) The apparatus according to claim 1, further comprising An exposure apparatus which transfers a pattern onto a substrate by using pulse beams periodically, successively emitted by a light source for generating a pulse beam, said apparatus comprising:
an illumination optical system for generating periodic pulse beams on the substrate;
a photoelectric array having a plurality of photoelectric converters which detect the pulse beams as electrical signals; and
a read circuit which reads the electrical signals from the plurality of photoelectric converters of said photoelectric array,
wherein said read circuit stores, in the plurality of photoelectric converters of said photoelectric array, charges corresponding to light quantities of pulse beams periodically,

successively emitted by the light source to said photoelectric array, and reads electrical signals from all the plurality of photoelectric converters by using a plurality of time intervals between the pulse beams while reading electrical signals from some of the plurality of photoelectric converters by using each time interval between the pulse beams; and

an adder which adds electrical signals read from the same photoelectric converter at different times.

4. (Currently Amended) The apparatus according to claim 1, An exposure apparatus which transfers a pattern onto a substrate by using pulse beams periodically, successively emitted by a light source for generating a pulse beam, said apparatus comprising:

an illumination optical system for generating periodic pulse beams on the substrate;

a photoelectric array having a plurality of photoelectric converters which detect the pulse beams as electrical signals; and

a read circuit which reads the electrical signals from the plurality of photoelectric converters of said photoelectric array,

wherein said read circuit stores, in the plurality of photoelectric converters of said photoelectric array, charges corresponding to light quantities of pulse beams periodically, successively emitted by the light source to said photoelectric array, and reads electrical signals from all the plurality of photoelectric converters by using a plurality of time intervals between the

pulse beams while reading electrical signals from some of the plurality of photoelectric converters by using each time interval between the pulse beams; and

wherein the number of photoelectric converters from which electrical signals are read by said read circuit at one time interval between pulses is determined in accordance with an emission frequency of the light source.

5. (Currently Amended) The apparatus according to claim 4, An exposure apparatus which transfers a pattern onto a substrate by using pulse beams periodically, successively emitted by a light source for generating a pulse beam, said apparatus comprising:

an illumination optical system for generating periodic pulse beams on the substrate;

a photoelectric array having a plurality of photoelectric converters which detect the pulse beams as electrical signals; and

a read circuit which reads the electrical signals from the plurality of photoelectric converters of said photoelectric array,

wherein said read circuit stores, in the plurality of photoelectric converters of said photoelectric array, charges corresponding to light quantities of pulse beams periodically, successively emitted by the light source to said photoelectric array, and reads electrical signals from all the plurality of photoelectric converters by using a plurality of time intervals between the pulse beams while reading electrical signals from some of the plurality of photoelectric converters by using each time interval between the pulse beams; and

wherein the number of photoelectric converters is determined to a relatively small number for a high emission frequency of the light source, and a relatively large number for a low emission frequency of the light source.

6-13. (Canceled)